

**From:** [Kraft, Nicole](#)  
**To:** [Pappachen, Andrew](#)  
**Cc:** [Vinciguerra, Amy](#); [Rich Paull](#); [Fell, Karen](#); [Zalaskus, Diane](#); [Adebowale, Andrea](#); [Gelin, Michel](#); [Awertschenko, Michael](#); [Brown, Jackie](#); [Moran, Edwin](#); [Liccese, Joseph](#)  
**Subject:** RE: Chlorine tracer study - Newark Pequannock Water Treatment Plant - 101515 - Dock No. SDWA-02-2015-8003  
**Date:** Monday, December 21, 2015 4:23:00 PM

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Andrew,

Thank you for sending the tracer study report. In order for EPA and NJDEP to fully evaluate the results and the adjustments you have made to the disinfection process, we will need to see the CT calculation you are using, in whatever form it is available (electronic spreadsheet, calculating by hand, etc.). This calculation must include the values you are using for each segment of the disinfection process, i.e. baffling factors, pipe lengths and diameters, clearwell volume. In addition, we would like to know how you will do the calculation moving forward (i.e. spreadsheet, by hand) and who on Newark WD's staff will be responsible for doing the calculation.

Thank you in advance for your cooperation.

Nicole Foley Kraft / Section Chief / U.S. EPA Region 2 / 290 Broadway, NY, NY 10007 /  
ph: 212.637.3093 / fax: 212.637.3953 / [kraft.nicole@epa.gov](mailto:kraft.nicole@epa.gov)

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**From:** Pappachen, Andrew [mailto:pappachena@ci.newark.nj.us]  
**Sent:** Monday, December 07, 2015 11:36 AM  
**To:** Kraft, Nicole <Kraft.Nicole@epa.gov>  
**Cc:** Vinciguerra, Amy <Vinciguerra.Amy@epa.gov>; Rich.Paull@dep.nj.gov; Fell, Karen <Karen.Fell@dep.nj.gov>; Zalaskus, Diane <Diane.Zalaskus@dep.nj.gov>; Adebowale, Andrea <Adebowalea@ci.newark.nj.us>; Gelin, Michel <Gelinm@ci.newark.nj.us>; Awertschenko, Michael <awertschenkom@ci.newark.nj.us>; Brown, Jackie <brownja@ci.newark.nj.us>; Moran, Edwin <morane@ci.newark.nj.us>  
**Subject:** Chlorine tracer study - Newark Pequannock Water Treatment Plant - 101515 - Dock No. SDWA-02-2015-8003  
**Importance:** High

Nicole:

Forwarded is the Chlorine tracer study and the determination of chlorine contact time conducted by H2M Associates for the Newark Pequannock Water Treatment plant as required by the administrative order.

The chlorine contact time determined by the study is less than what we have been using. We have been using CT calculations based on full clear well level. Since the clearwell is not normally full and usually at 603 feet, the study came up with lower numbers. Starting December 1, 2015, we will be calculating the CT using the number for clearwell level at 603 feet and determining the CT ratio. We have increased the post chlorine residual from 1.0 mg/l to 1.3 mg/l to meet the 1.0 CT ratio requirement.

If you have any questions, please contact me.

*Andrew Pappachen*

Director of Public Works, Dept. of Water & Sewer Utilities

1294 McBride Ave., Little Falls, NJ 07424

Little Falls: 973-256-4965

Water Treatment Plant: 973-697-5992

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**From:** Mili N. Patel <[MPatel@H2M.com](mailto:MPatel@H2M.com)>

**Sent:** Friday, December 4, 2015 3:03 PM

**To:** Pappachen, Andrew

**Cc:** Patrick K. Cole

**Subject:** RE: CTA - TMF

Andrew,

See the attached pdf of the separate CT tracer study report from Carollo Engineers.

Any questions, let me know.

Thank you,

**Mili N. Patel, EIT, LEED Green Assoc.**

**Staff Engineer – Water Resources**

H2M architects + engineers

2380 Route 9 South, Bldg C, Ste 1, Howell, NJ 07731

tel 732.414.2661 x2105 | fax 732.414.2662 | mobile 732.877.7714

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